

REMARKS

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention.

Initially, it is noted that the features of claims 6 and 9 have been added to claims 1 and 4, respectively. Accordingly, claims 6 and 9 have been canceled.

The Examiner has objected to claim 8 because of a minor typographical error. Therefore, claim 8 has been amended to correct this error and removal of the objection is hereby requested.

Claims 1-11 stand rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter. Accordingly, claims 1 and 4 have been amended to address the Examiner's rejections. It is believed that these amendments remove the grounds for the rejections and notice to that effect is hereby requested.

The Examiner has rejected claims 1, 4, 6, 7, 9, and 10 under 35 U.S.C. 102(a) as being anticipated by U.S. Pat. No. 6,473,664 to Lee et al. The Examiner's rejection is traversed for the following reason.

One aspect of the present invention relates to an apparatus for managing a liquid crystal substrate. The apparatus comprising a liquid crystal testing device operable to determine whether at least one of a panel and a substrate in the liquid crystal substrate has a defect, and acquire defect information indicative of at least the defect and whether the at least one of the panel and the substrate is defective.

The apparatus further including a liquid crystal repair device operable to repair the defect based on the defect information, and acquire repair information that is indicative of whether the defect is actually repaired. The apparatus also including a data management section having a database adapted to record the defect information which is acquired from the liquid crystal testing device, and the repair information which is acquired from the liquid crystal repair device. The data management section is operable to redetermine the presence of the defect based on comparison between the defect information and the repair information which are recorded in the database. The liquid crystal repair device is operable to correct the defect information to generate corrected defect information when the defect information is different from the repair information with regard to the defect. Furthermore, the data management section is operable to update the defect information recorded in the database with the corrected defect information

Lee involves a manufacturing process automation system for the fabrication of semiconductor devices and TFT-LCDs. Specifically, Lee discloses machines (300a, 300b, 300c, 300d) that communicate with a file server (400). Additionally, a database (110) interacts with machine servers (200a, 200b, 200c, 200d) that communicate with the machines (300a, 300b, 300c, 300d). As will be discussed in more detail hereinafter, the machines (300a, 300b, 300c, 300d) may include a tester, a repairer, an exposing machine, an etching machine, and a sputtering machine.

Claim 1 of the present invention recites that "said data management section is operable to **redetermine** the presence of the defect based on comparison between the defect information and the repair information which are recorded in said

database." Additionally, claim 4 recites the step of "**redetermining** the presence of the defect based on comparison between the defect information and the repair information which are recorded in the database." In support of these rejections, the Examiner indicates that Lee discloses that the machines share job result data from the previous machine. Additionally, the Examiner mentions that Lee discloses that the second machine is the repair machine.

In the Response to Arguments section of the Office action, the Examiner states that "Lee explains in column 8, lines 11-19 that the host contains a database where it manages the whole assembly line (**containing both testers and repairers**) including job result data" (Emphasis added; Pgs. 12-13, Sect. 22). Applicant is unsure how Lee can be cited for teaching that the assembly line contains multiple testers and multiple repairers. Rather, Lee only discloses a single tester (300a), the first machine, and a single repairer (300b), the second machine.

The presence of multiple machines in Lee in no way indicates that there are multiple testers or repairers. In fact, Lee discloses that "the automation system is described as an example of the tester and the repairer" (Col. 11, lines 26-30). It is noted that Lee did not state that the automation system is described as an example of multiple testers and multiple repairers. Immediately following this disclosure, Lee further states that "[h]owever, such machines as an exposing machine, an etching machine, a sputtering machine and others that are necessary for the TFT-LCD assembly line may employ the present invention (Col. 11, lines 26-30). The illustrations in Lee with multiple machines symbolize the tester and repairer, and a collection of other machines, such as the exposing, etching, and sputtering machines.

Accordingly, as there is only one tester in Lee, applicant is somewhat unsure how or why there would be redetermination of the presence of the defect. Rather, the tester (300a) of Lee would test the glasses and share the results with the repairer (300b). The repairer (300b) would then repair the glasses and share the raw and summary data with the exposing, etching, or sputtering machine, which would then work on the glasses. According to Lee, the raw data includes coordinate data of repair and contents of the repairs (Col. 5, lines 52-53). This is taken to mean the location of the repair on the glasses and what repairs were performed on the glasses, respectively. The summary data includes the number of repaired glasses (Col. 5, lines 53-54). The number of repaired glasses is merely a count of how many glasses on which the repairer (300b) has worked. However, there is no indication that the glasses are redetermined. Rather, the glasses are merely tested by the tester (300a) and then worked on by the repairer (300b). For at least the above reason, the rejections of claims 1 and 4, and claims 7 and 10 that depend therefrom, should be removed.

Amended claims 1 and 4 further recite that "said data management section is operable to update the defect information recorded in said database with the corrected defect information" and the step of "updating the defect information recorded in said database with the corrected defect information", respectively. These features were previously present in now canceled claims 6 and 9, respectively. In support of the rejections to claims 6 and 9, the Examiner pointed to Col. 5, lines 51-59, Col. 6, lines 42-48, Col. 8, line 51 – Col. 9, line 10, and Col. 9, line 55-65 of Lee. However, review of the cited sections of Lee does not reveal the claimed features of now amended claims 1 and 4. In particular, any suggested

disclosure of updating in Lee is only at Col. 8, line 51 – Col. 9, line 10. In this section of Lee, the updating described is performed with respect to the machine status and the port information. This is not "corrected defect information" as recited in claims 1 and 4. Therefore, removal of the rejections of claims 1 and 4, and claims 7 and 10 that depend therefrom, is respectfully requested.

The Examiner has rejected claims 2, 3, and 5 under 35 U.S.C. 103(a) as being unpatentable over Lee in view of U.S. Pat. No. 6,282,457 to Miura. Furthermore, the Examiner has rejected claims 8 and 11 under 35 U.S.C. 103(a) as being unpatentable over Lee in view of U.S. Pat. Pub. 2003/0063792 to Hiroi et al. The Examiner's rejection is traversed for the following reason.

Miura relates to a device for controlling a treating station. Miura teaches a coating/development unit (2) that is connected to a host computer (5) and an exposure unit (3). A transfer unit (4) transfers a wafer (W) between the coating/developing unit (2) and the exposure unit (3), and a control section (20) is incorporated in the coating/developing unit (2). The "host computer does not output recipe information for the control of the transfer system, which means that the transfer system operates independent of the host computer" (Col. 6, lines 32-35).

Hiroi involves an apparatus for inspecting a specimen. Specifically, Hiroi includes a beam source (1) for generating an electron beam (2). The apparatus further includes a deflector (3), an object lens (4), a stage (6), a detector (8), and an A/D converter (9), as shown in Fig. 4. A defect data storing means (201) stores defect data (200) and a data outputting means (203) outputs stored defect data (202).

It is noted that Miura and Hiroi do not correct the deficiencies of Lee. More

specifically, Miura and Hiroi do not teach or suggest the data management system or the step of redetermining "the presence of the defect." Therefore, even if the references were combined, they would not provide such a data management system or the redetermining step. Thus, the Examiner has failed to provide a *prima facie* case of obviousness of claims 1 and 4, from which claims 2, 3, 5, 8 and 11 depend. Therefore, the rejection of claims 2, 3, 5, 8 and 11 must be withdrawn.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. NGB-15369.

Respectfully submitted,

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